

## ABSTRACT OF THE DISCLOSURE

An apparatus and method for simulating the behavior of the drive system and the mechanism of machine tool or production-line machine by use of mathematical models of the drives and the mechanisms of the driven mechanical elements of the machine are disclosed. Preferably actual values for regulated and unregulated axes are calculated at the same time using NC- and PLC-models, respectively by an auxiliary computer using desired values provided by a digital controller. The actual values are then supplied to a mechanism model, preferably a geometric kinematic model, which produces a state signal that is fed back to the digital controller, preferably in real time. The result is an efficient, easy and cost-effective simulation that closely approximates reality and can be provided in real-time.